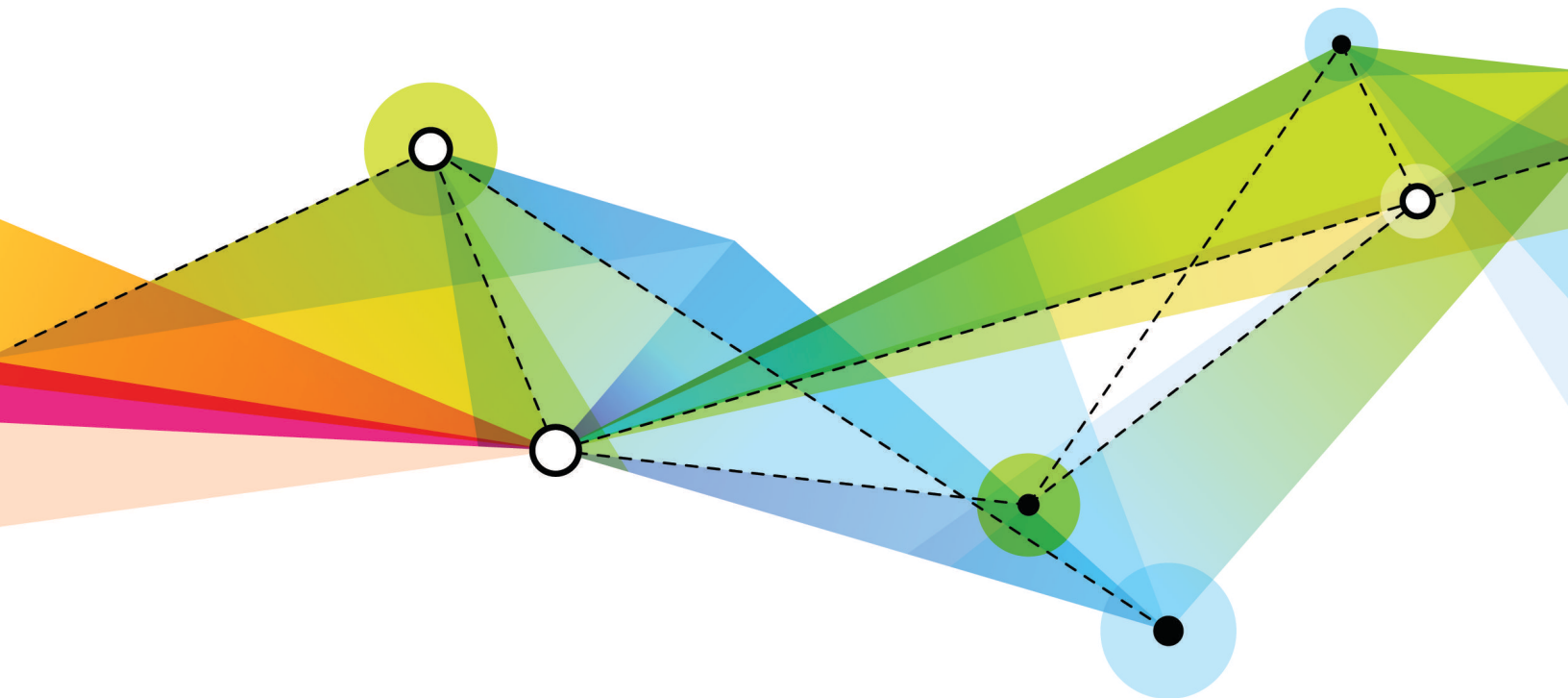




Sources of Charges in Smile

Quick Reference Guide



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Sources of charges in Smile

Overview

Smile can be configured with many types of charges that can be applied in different ways within Smile. An understanding of Smile's charge sources assists understanding of the consequences when making changes in Smile and how changes may be applied to current and future subscriptions, and past, current and future billing periods.

This document provides an overview of Smile, a summary of the sources of charges that can be configured and examples of how charges can be applied.

Introduction to Smile

Smile is a business support system (BSS) for ISPs, telcos and utility providers. You can use Smile with many consumer data services, including xDSL and wireless internet, mobile and fixed-line telephony, web hosting, web application management, fax gateways and IPTV.

As a business support and order-to-cash system, Smile:

- creates and tracks invoices on a cycle that suits your company
- sends the invoices to customers
- accepts payments, including credit card and direct debit payments
- automates debtor control
- supports a variety of plans and packages so you can bundle services to customers

Smile integrates with operational support systems (OSS) via well-defined interfaces, through which Smile can:

- provision and deprovision customers
- automatically control a customer's access to a service based on the status of their account
- enforce spend limits and other policy actions

Terminology

The following list defines some important terms that are often used in Smile:

service	A generic kind of product that can be provided to customers, for example, ADSL or mobile telephony.
subscription	A single instance of a service that is provided to a customer, for example, a single mobile number. Subscriptions belong to an account and are often the source of usage and recurring charges.
account	A customer, company or debtor in the accounts receivable system to whom one or more subscriptions are provided. For example, you can provide mobile subscription 0401234567 to the account of Joe Smith. The account defines who bills are sent to, how much the customer owes and their payment terms.
plan	The set of rules that determine how much is charged for a subscription. A plan can include recurring charges, usage charges, minimum charges, included usage and access rules such as modem speed.
package	A bundle of services added as a group to an account. Packages specify default values for bill layout and billing frequencies, and are used to order subscriptions and accounts.

If you have a customer-facing role, you often manage accounts and subscriptions. If you deal with provisioning, networks and pricing, you often manage services, plans, packages and other configuration tasks. You can find more information about these terms in the following topics.

Services

A service is a generic type of product that you provide to customers. For example, if your company is a cable TV provider, you may offer telephone, TV, cable internet and wireless internet services.

Each service contains the following information:

- plan and contract configurations
- rating and tariff configurations
- provisioning data
- any other details about how the service should be provided

You can associate multiple plans with each service. For example, you may offer plans with 50GB, 100GB or 200GB monthly download limits for the same cable internet service.

A service is static. Once you set up a service, its service definition does not change until you change the configuration. You can create new services or rename the existing services for you specific requirements.

Subscriptions

A subscription is a single instance of a service that you provide to a customer, for example, a mobile number or ADSL connection.

A subscription contains the following information:

- user-identifying data, for example, a username or USN (unique subscription number)
- a plan schedule, which lists the plan the subscription uses
- customer-specific rates
- any other details about the service as it is provided to an individual customer

An account can have multiple subscriptions. For example, the following diagram shows an account with three associated subscriptions (mobile, voice and ADSL).

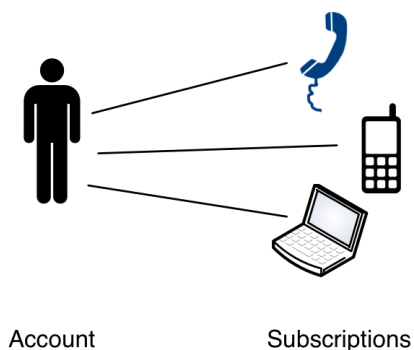


Figure 1: An account with multiple subscriptions

Although an account can have multiple subscriptions, each subscription is associated with only one account. You cannot associate a subscription with two accounts, and you cannot split the charges for a subscription between multiple accounts.

Accounts

An account is a customer or company to whom you provide one or more subscriptions. An account holds all the business-related information about a customer, such as their billing address, credit card details and transaction history.

Accounts let you:

- manage a customer's contact details
- raise an invoice or generate a receipt
- apply discounts and recurring charges, for example, a fee for a paper bill
- track your company's communication with a customer
- view a customer's payment history
- associate a ticket with a customer

Accounts also contain a record of each financial transaction made against the account, for example, a record of each invoice, refund and payment.

Plans

A plan is a set of rules that determines how much to charge for a subscription. Plans include the following components:

- **usage charges**—specify how much to charge for different blocks of continuous use, for example, telephone flagfall and timed charges or mobile internet downloads. Usage charges also include plan-specific tariffs and policy configuration rules, for example, a rule that shapes a customer's usage if they exceed a download limit.
- **recurring charges**—specify a regular charge that is not based on usage, for example, an insurance surcharge.
- **setup charges**—specify an initial charge to add a customer to the plan, for example, an ADSL connection fee. Some plans do not have a setup charge.
- **settings**—specify conditions that apply to the plan as a whole, for example, minimum usage charges and the value of included usage.

Plans can also contain special offers, for example, the first month of usage is free.

Plans are static. Once you set up a plan, its plan definition does not change until you change the configuration.

Plan schedules

A plan schedule lists the plan that a subscription uses at a particular point in time.

Each subscription has a plan schedule associated with it. The active plan in the plan schedule tells you how much to charge for the subscription, even if the subscription is free. The plan schedule lets you change the plan that a subscription uses now or in the future. Plans can be retroactively changed which may result in additional charges or credits.

Packages

A package contains all the configuration information that Smile needs to create an account or subscription. Packages also bundle together multiple services so you can add them as a group to an account.

A package contains:

- **services**—specify the services in the package, for example, an account or subscription.
- **plans**—specify how much to charge for each account or subscription.
- **configuration information**—specify any other information Smile needs to create the account or subscription, for example, default bill layouts, dispatch settings and billing frequencies.

You use packages to order accounts and subscriptions. An order is a request to create a new account or subscription.

A package can contain multiple services, and each service can be associated with multiple plans. When using Smile service order forms the customer chooses a plan for each service in the package when they buy the package. A custom order form can simplify the plan order process.

The following diagram illustrates the components of a simple package. In this example, the package contains mobile, ADSL and telephone services that each have one plan associated with them.

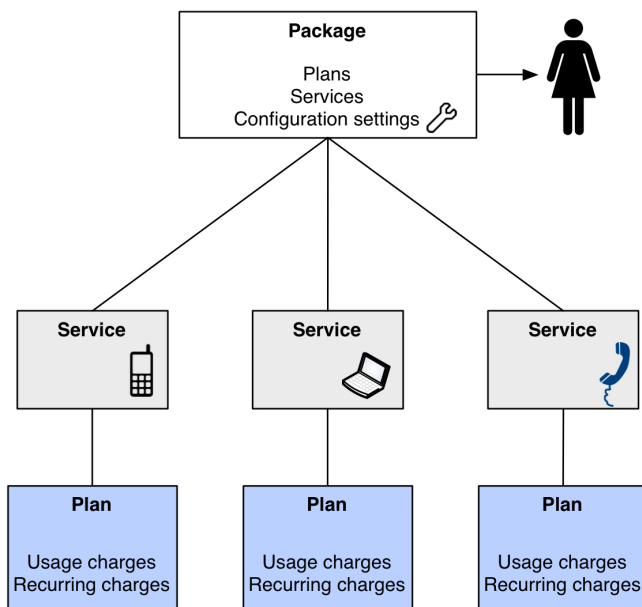


Figure 2: Package components

Sources of charges in Smile

Smile can be configured with many different charges. A charging configuration may contain multiple charges. Charges are defined within the context of the service being delivered. Available billing rules include any combination of:

- tiered usage charges
- fixed price usage charges
- monthly included value allowances
- per day/session/month usage allowances
- prepaid usage allowances
- overage charges
- peak and off peak rates
- day-of-week rates
- minimum event charges
- minimum total monthly charges

Cloning plans and services

Smile makes it easy to clone an existing plan to make a new plan. For example, if you have a plan called *ABC ADSL2 20GB Shaped*, and you want to create another called *ABC ADSL2 40GB Shaped*, which is identical apart from the name and included capacity, then you can clone the first plan to create a new plan. Edit the new plan with the changes, such as the plan name, included capacity and invoice description.

You cannot clone a plan in one service to create a new plan in a different service. You can clone services which creates a full copy of a service and its associated plans.

Plan recurring charges

Plans have recurring charges, typically a monthly fee. Whilst there could be none, one or more recurring charges, typically there is one. For example, a monthly fee would customarily be set as the recurring charge associated with a plan.

Plan options

Plans can also have options. For example, these could be options on a subscription such as static IP addresses or email addresses. When a subscription is created the plan recurring charge always applies and additional options may be offered that can be selected as required to complete the creation of the subscription.

Plan options can have an:

- **Option recurring charge**
- **Option setup charge**

You can use options for included usage and recurring charges. For example, you may have an ADSL plan that offers different usage options. You could define one plan with three charging options, one of which

must be selected, and allowance rules that are specific to the select option. This approach may be easier to manage than three separate plans.

Plan options are only available on subscriptions for the plan on which they have been defined.

Plan setup charges

A mandatory upfront charge that applies to the given plan.

Service charges

Services can have charges as well. These can be optionally selected when the subscription is first created, for example, on the initial plan selection.

There two types of service charges:

- **Service recurring charge**
- **Service one-off charge**

When applied to a subscription, service charges becomes instances of subscription recurring charges.

Service charges differ to plan charges:

- as they are defined at the service level and are then available for selection for any plans in the given service.
- as changes to the service charge definition only applies to new subscriptions, where as changes to plan charge definitions can apply to existing and new subscriptions.
- as they are only available for selection when the subscription is created (on the first plan). Plan option charges are available for selection each time a plan is selected, including subsequent upgrades and downgrades.
- as subscriptions receive a copy of service charges, which can be difficult to manage in bulk as changes can only be made on individual subscriptions.

Other charges

Smile includes other recurring and account related charges.

Invoice items—are used for one-off purchases and can be applied to any account or subscription.

Account recurring charges—can be applied at the account rather than subscription level. These type of charges are essentially recurring invoice items specified at the account level. For example, only invoice items can be used as the basis of account recurring charges so the invoice items must be defined before the account recurring charge is defined.

Subscription standard charges—can be applied to a specific subscription. Subscription standard charges are the equivalent of account recurring charges except that they apply to a specific subscription. These charges can be added after the subscription is created.



Tip: Service recurring charge, account recurring charge and subscription standard charge are collectively known internally to Smile as user auto charges.

- **Subscription custom charges**—are no longer supported. They were the same as subscription standard charges, except that they were not restricted to predefined invoice items.

Contracts—are defined on a service and can be made available to the associated plans. A contract can have setup and termination charges.

Tariffs and Plan rules—are used for voice and data subscriptions. Collectively they referred to as usage charges.

Properties associated with these charges can be scheduled to take effect on a given date. Tariffs have a tariff start date. Plan rules have a more sophisticated date restrictions definition.

Tariff and plan rule changes, such as corrections, affect invoices as follows:

- Rate on processing (standard Smile configuration 2014 and prior)—Rating occurs according to the tariffs and plan rules in effect at the time of invoice processing. Any subsequent change to tariffs and plan rules, even for dates that would be relevant to a previously processed invoice, have no affect, unless the invoice is regenerated.
- Pre-rating—As per rate on processing. Pre-rating differs with rate on processing by virtue of its support for spend limit management during the rating period.
- BigRating—Smile processes charges in real-time. Charges changed retrospectively cause automatic re-rating and the application of subsequent credits and debits to future invoices.

Usage charges are typically charged monthly.

Prepaid time and data—charges are used for voice and data subscriptions.

Bonds—are a special type of charge used for holding a deposit or security.

Surcharges—can be applied according to payment type. For example, MasterCard, Visa and Diners cards.

Late fees—can be applied by credit control.

Declined payment fees—are configured on payment methods.

Adjustments—such as credit notes and debt notes are transactions raised by the operator and applied to an account.

Managed plan upgrade / downgrade fees—are defined within the managed plan matrices.

Feature recurring charges—can be defined on features applied to subscriptions. Features are used to manage related functions that can be turned on and off multiple times during the course of the supply of a given service. For example, voice mail on a phone service.

Charges can be associated with the application of features to subscriptions, but not plans. Where charges are involved these are started and ended as the features are enabled and disabled.

Private plans

Private plans have their own recurring charges and set up charges. A subscription can have private tariff and plan rules. For all intents and purposes these charges are the same as standard plan associated charges.

Charge examples

The following service examples show the types of charges that can apply to different services, plan and options.

ADSL

Example Internet Pty Ltd offers an ADSL service with three plan options:

- **Bronze**—40GB up/downloads @ \$30/month
- **Silver**—75GB up/downloads @ \$40/month
- **Gold**—120GB up/downloads @ \$60/month

The following table shows charges that apply to the Silver plan.

Table 1: Charges that apply to the Silver ADSL plan

Charge	Source	Amount	Frequency
Silver plan fee	Plan recurring charge	\$40.00	monthly
Activation fee	Plan setup charge -or- Service charge	\$59.00	one-off
ADSL modem	Bond	\$99.00	one-off
24 month contract - \$1019 minimum spend	Contract	\$balance of contract if cancelled early	one-off
Excess usage over 75GB - charged per 1Gb	Plan rule	\$10.00	monthly
Plan upgrade/downgrade fee	Managed plan upgrade/downgrade fee	\$15.00	one-off

Web hosting

Example WebWorld Pty Ltd offer web hosting services with three plans options:

- **Economy**—1 website, 1GB of storage, 2 mailboxes, 10GB traffic @ \$5/month
- **Deluxe**—4 websites, 10GB of storage, 20 mailboxes, 50GB traffic @ \$15/month
- **Ultimate**—unlimited websites, unlimited storage, unlimited mailboxes, unlimited traffic, 1 year SSL certificate @ \$25/month

The following table shows charges that apply to the Economy plan.

Table 2: Charges that apply to the Economy web hosting plan

Charge	Source	Amount	Frequency
Web hosting	Plan recurring charge	\$5.00	monthly
Storage - per additional 1GB	Plan option recurring charge	\$5.00	monthly
Mailbox - per additional mailbox	Plan option recurring charge	\$1.00	monthly
SSL certificate	Plan option recurring charge	\$5.00	monthly

Dark fibre

Example Wholesale Communications Pty Ltd offers a dark fibre service. As a unique high value service it does not provide plan options.

Table 3: Charges that apply to the dark fibre service

Charge	Source	Amount	Frequency
Dark fibre service	Service recurring charge	\$3000.00	quarterly
Service activation	Service one-off charge	\$150.00	one-off
Enhanced support	Account recurring charge	\$150.00	monthly
Installation	Service one-off charge	\$20,000.00	one-off
36 month contract - \$113,550 minimum spend	Contract	\$balance of contract if cancelled early	one-off

Fixed line telephony

Example Telecom Pty Ltd offers a residential fixed line telephony service. They provide a base service that includes 200 minutes of local, national and mobile calls. Excess usage over the plan quotas are charged accordingly. Additional features can be added as required.

Table 4: Charges that apply to the residential fixed line telephony service

Charge	Source	Amount	Frequency
Residential line rental	Plan recurring charge	\$35.00	monthly
Installation	Plan setup charge -or- Service charge	\$60.00	one-off
6 month contract set up fee	Contract	\$80.00	one-off
6 month contract - \$350 minimum spend	Contract	\$balance of contract if cancelled early	one-off
Excess included local/national/mobile calls	Tariff, Plan rules	\$dependant on use	monthly
International calls	Tariff, Plan rules	\$dependant on use	monthly
Silent number	Feature	\$2.00	monthly
Voicemail	Feature	\$5.00	monthly
Call forwarding	Feature	\$3.00	monthly
Credit card surcharge, 1% of bill total	Surcharge	\$dependant on payment type/bill total	one-off

Mobile telephony

Example Telecom Pty Ptd offers a mobile telephony plan. The plan provides a mobile handset, \$500 included call and message value and 1GB included data.

Table 5: Charges that apply to the mobile telephony service

Charge	Source	Amount	Frequency
Mobile plan	Plan recurring charge	\$30.00	monthly
Handset	Option recurring charge	\$35.00	monthly
SIM fee	Service one-off charge	\$20.00	one-off
Excess call and message value	Tariff	\$dependant on use	monthly
Excess data usage	Plan rules	\$dependant on use	monthly
24 month contract - \$1580 minimum spend	Contract	\$balance of contract if cancelled early	one-off
Paper invoice	Account recurring charge	\$2.20	monthly
Late fee	Late fee	\$5.00	one-off

Charge changes

Smile manages the invoices, payments and adjustments for millions of accounts. Charges can be raised at any time, either manually, automatically or via the Smile API; charges can be reversed, pro-rated and back-dated seamlessly; invoices can be raised immediately or deferred until the end of the billing cycle.

How Smile handles charge changes will depend on the configuration of your Smile. The following table summarises the Smile charges that can handle changes and how the change is processed:

	Plan recurring charges	Option recurring charge	Service recurring charge	Service one-off charge	Invoice items	Account recurring charges	Subscription standard charges	Contracts	Tariffs	Plan rules	Surcharges	Late fees	Declined payment fees	Managed plan changes	Features
Charges and other properties are centrally governed by the properties defined in Configuration (Services and Plans, Credit Control). Pricing changes are propagated.															
Changes to plan definitions are propagated to all subscriptions created from these definitions, except if overridden. New charges will be seen in any generated or regenerated invoice. (Change to charges are not automatically backdated for closed billing periods)	●	●													
With BigRating – Billed charges are reversed and then reapplied using the changed definitions. Invoices do not need to be regenerated.									●	●					
Without BigRating – Changes only effect new charges raised.								●	●	●	●	●	●		
Features are defined in RADIUS Features and applied to plans. Charges can be set at the subscription level.															●
Recurring charges cease when the subscription ends	●	●	●			●									●
Supports scheduled changes to recurring charges at the subscription or account level															
Changes can be scheduled through plan changes where the new charges will be applied from the schedule date, or if billed already and invoices regenerated, the old charges will be reversed and the new ones charged. Operator overrides not supported.	●	●													
Service at the individual subscription level and account recurring charges can be managed using the first charge date and last charge date.			●			●	●								
Supports scheduled changes to non-recurring charges at the subscription or account level									●	●					
Operator may override the rate, quantity & description of a charge															
If operator override is configured on plan settings.	●	●													

Charge integration

Charge categorisation

All charges can be coded with the following to aid reporting or interfacing to other systems:

- **Invoice order**—used for prioritising where on an invoice a charge will appear relative to other charges. Charges with a lower order number are printed before items with larger order numbers by default, depending on the stationery configuration.
- **Sales report category**—used to group charges for Smile’s financial reporting.
 - **GL Codes**—for associating charges with an external GL system.
- **Discount category/commission category**—used to categorise charges for the application of discounts and commission.

Note: Charge type, which is used to quantify usage, for example, seconds or megabytes, uses the same object as Discount Category/Commission Category.

Remember: Discounts will affect the final invoice charge amount.

The Smile API

The Smile API can be used to:

- add **invoice items** immediately or deferred to the next billing period
- add accounts and subscriptions (service plans) with contracts and options as defined in packages using the associated order form.

Restriction: An order form cannot be used to order a quantity of one-off charges. This can be worked around when only a small number, a quantity in the range of 1-4, of charges are specified. 1-4 options are specified as setup charges and the number required is selected.

- add **account recurring charges** and **subscription standard charges**
- add **prepaid time and data**
- add **bonds**
- make payments through Smile
- apply **adjustments**
- upgrade / downgrade plans
- enable or disable **features**

The Smile API cannot add **service recurring charges**, **service one-off charges**, **late fees** or **declined payment fees**.

For more information, see the *Developer Guide*.

Active MQ

Active MQ can be used to listen for:

- **Feature enablement and disablement**—for example, to take an action in an interfaced system
- **Invoices raised**—for example, when using Smile to do rating alone, to pass invoice item information to another system which raises invoices
- **Subscription creation**—for example, to interface to a provisioning system